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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,398	06/28/2004	Maxwell Bushby		4401

24271 7590 04/19/2007  
JOHN ALEXANDER GALBREATH  
2516 CHESTNUT WOODS CT  
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EXAMINER
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HICKS, ROBERT J

ART UNIT	PAPER NUMBER
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3709

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/19/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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<b>Office Action Summary</b>	Application No.		Applicant(s)	
	10/500,398		BUSHBY, MAXWELL	
	Examiner		Art Unit	
	Robert J. Hicks		3709	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 June 2004.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 6/28/04 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. 10/500,398.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Priority*

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 10/500,398, filed on June 28, 2004.

### *Specification*

2. The disclosure is objected to because of the following informalities:
  - a. Misspelling of the word "thinwalled". (Page 2 Lines 13-14; Page 5 Line 1)  
The term could be written as either "thin-walled" or "thin walled."
  - b. Same reference number used to describe two different feature elements in figure, "...into the base 5 and being compressed when the base is inserted into tubular element 5." (Page 4 Lines 23-24)
  - c. Reference "9" (Page 6 Line 8) does not have a description of the part.  
Applicant should insert the term "recess" before Reference "9".
  - d. Phrase "must of course to be angled" (Page 5 Line 12) is unclear. The applicant could remove the word "to" in the phrase.
  - e. "arcuate recess 12" (Page 4 Lines 19- 20) is not referenced in any of the drawings provided.
  - f. Face #16 is unclear as to the face pertaining to the protrusion or the recess. (Page 5 Lines 15-16).

Appropriate correction is required.

***Drawings***

3. The drawings are objected to because of the following:
  - a. Figure 3 (Detail View B) element 18 is not clear as to being a space where wall "6" is filled or a solid portion. Examiner would like the applicant to provide a peripheral view of the base to show the design of the protrusion.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Objections***

4. Claims 1-3 are objected to because of the following informality: misspelling of the term "thinwalled". The term could be written as either "thin-walled" or "thin walled".
5. Claim 11 is objected to because of the following informality: "...the wall thickness of the lower peripheral portion ... below the thin walled recess exceeds and the minimum wall thickness of the thin walled recess by by least 20 per cent" is unclear. The phrase could be written as "the wall thickness of the lower peripheral portion ... below the thin walled recess exceeds the minimum wall thickness of the thin walled recess by at least 20 per cent." Appropriate correction is required.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-2, and 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mirasol, Jr. (U.S. Patent No. 3,485,436) [hereinafter Mirasol], in view of Hayes (U.S. Patent No. 4,516,689).
8. Regarding Claim 1, Mirasol is from the art of plastic containers with side walls and snap-fitting bottom walls, and clearly discloses the following:

- a. a thermoplastic body having a disc like top moulded as one with a tubular element defining the sides of the body and extending downwardly from the peripheral portions of the top (Fig. 1, 10)
- b. means associated with the top to facilitate opening by an end user (Fig. 1, 16 and Fig. 5, 23)
- c. a thermoplastic base member (13) having an externally directed protrusion (15) adapted to engage a relatively thin walled recess (12) in the radially internally facing lower peripheral portion of the body thereby effecting a permanent seal at the base of the container after filling thereof (Fig. 2c)
- d. the resistance to permanent inward deformation of the externally directed protrusion exceeding the resistance to permanent outward deformation of the thinwalled recess (Col. 2 Lines 18-22)

Mirasol does not expressly disclose the wall thickness of the lower peripheral portion of the body below the thin walled recess exceeding that of the thin walled recess. Hayes is from the art of containers with thick walled peripheral bases, and the patent to Hayes discloses this feature in Fig. 3 Reference 22.

Mirasol and Hayes are analogous art because they are from the same field of containers. At the time of invention, it would have been obvious to a person of ordinary skill in the art to increase the wall thickness at the base of Mirasol container to be thicker than the wall thickness at the thin walled recess, as suggested by Hayes, to improve the strength of the container to hold the base, with the motivation that "...the seal plate is not easily removed once it is inserted." (Hayes, Col. 2 Lines 14-15)

Therefore, it would have been obvious to modify the Mirasol container lower peripheral wall to be thicker than the wall thickness at the thin-walled recess, as suggested by Hayes, to obtain the invention as specified in claim 1.

9. Regarding Claim 2, the Mirasol and Hayes combination teaches that the externally directed protrusion extends externally and downwardly. (**Mirasol**, Fig. 2a) The Mirasol rim (15) is made of a resilient material allowing the base to flex inwardly when it enters the bottom of the can, and when the base comes to rest in the thin-walled recess, the base will return to its normal state. (**Mirasol**, Fig. 2b – 2c, and Col. 2 Lines 11-22)

10. Regarding Claim 4, the Mirasol and Hayes combination teaches the resistance to permanent inward deformation of the externally directed protrusion exceeds the resistance to permanent outward deformation of the thin walled recess due to the fact that the radially externally directed protrusion is fabricated from thicker thermoplastic material than that present in the thin walled recess. (**Mirasol**, Col. 2 Lines 15-18).

11. Regarding Claim 5, the Mirasol and Hayes combination teaches an area where the base-body interface is provided with a secondary seal apart from that effected by the externally directed protrusion nesting in the thin walled recess; this secondary seal being effected by one or more resiliently deformable annular protrusions from the base contacting the body and deforming thereagainst so as to form a seal when the externally directed protrusion nests in the thin walled recess as to form the primary seal (**Mirasol**, Fig. 4)

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12. Regarding Claim 6, the Mirasol and Hayes combination teaches an area where the base-body interface is provided with a secondary seal apart from that effected by the externally directed protrusion nesting in the thin walled recess; this secondary seal being effected by one or more resiliently deformable annular protrusions from the body contacting the base and deforming thereagainst so as to form a seal when the externally directed protrusion nests in the thin walled recess as to form the primary seal (**Mirasol**, Fig. 4)

13. Claims 3, and 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mirasol, Jr., in view of Hayes, and further in view of Stewart (U.S. Patent No. 4,909,394).

14. Regarding Claim 3, although Mirasol clearly discloses the externally directed protrusion as stated in Paragraph 9 above, the Mirasol and Hayes combination does not clearly disclose the radially innermost side of the protrusion defining with the adjacent surface of the base an undercut; the included angle of the undercut being between 20 and 45 degrees.

Stewart is from the art of plastic cups with sidewalls and protrusions, and the patent to Stewart clearly states in the disclosure "... the ramp being ... preferably an angle between 12 degrees and about 45 degrees to the vertical, ...the lug being rounded (for example, circular) in cross-section and being radially compressible when it engages the intermediate sealing surface to seal the two together," (**Stewart**, Col. 3 Lines 32-39).



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Mirasol Jr., Hayes, and Stewart are analogous art because they are from the same field of containers. At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the angle of the protrusion stated in the Mirasol and Hayes combination base to form an undercut angle between 20 and 45 degrees, as suggested by Stewart, so that the base forms a tight seal with the container wall to prevent spills, with the motivation that "...the above structural configuration provides a cup or container which is simple to manufacture, [and] provides an effective seal." (Stewart, Col 3. Lines 57-59)

Therefore, it would have been obvious to modify the undercut angle of the protrusion in the Mirasol and Hayes combination container, as suggested by Stewart, to obtain the invention as specified in claim 3.

15. Regarding Claims 8-9, the Mirasol and Hayes combination does not clearly disclose the specifics of the interferences between both:

- a. The radially outermost extremity of the protrusion and the recess in the thinwalled section, and that of
- b. The lowermost surface of the protrusion and that complementary surface of the recess of the body.

However, the patent to Stewart clearly discloses "Because the width of lug 36 is greater than the depth of groove 28 be several thousandths of an inch at the centre of the lug, the outer several thousandths of an inch of the lug at the centre engages with, is compressed by, and compresses, wall 32 (see Figs. 5 and 9). As is apparent, only a

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small portion of wall 32 is engaged by the central several thousandths of an inch of the lug creating the radial seal.” (**Stewart**, Col. 5 Lines 60-67)

Mirasol, Hayes, and Stewart are analogous art because they are from the same field of containers. At the time of the invention, it would have been obvious to one of ordinary skill in the art to manufacture the Mirasol and Hayes combination container so that there were several thousandths of an inch interference at the engagement of the protrusions of the base and the recesses of the wall, as suggested by Stewart, to create a strong seal for the container, with the motivation that “...the seal is maintained between the central portion of the lug 36 and the wall 32.” (**Stewart**, Col. 6 Lines 10-12)

Therefore, it would have been obvious to modify the interference between the protrusion and the thin-walled recess in the Mirasol and Hayes combination container, as suggested by Stewart, to obtain the invention as specified in claims 8 and 9. The examiner interpreted the applicant’s reference to the interference between the protrusion and the recess as not being critical in this application of the assembly of the base and the body within the claimed invention.

16. Regarding Claim 10, although the Mirasol and Hayes combination does not clearly disclose the radially outermost extremity of the protrusion has a relatively sharp edge exhibiting a radius of between zero and 2.5 mm, Stewart clearly discloses that the protrusion “has a radius of 1.0 mm” (**Stewart**, Col. 4 Line 48).

Mirasol, Hayes, and Stewart are analogous art because they are from the same field of containers. At the time of the invention, it would have been obvious to one of ordinary skill in the art to modify the outermost protrusion extremity of the Mirasol and

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Hayes combination to have a radius of 1.0 mm, to develop an effective seal for the base to the container wall, with the motivation that "the lug creates a compression seal with the intermediate sealing surface of the groove." (Stewart, Col. 4 Lines 23-25).

Therefore, it would have been obvious to modify the protrusions of the Mirasol and Hayes combination container to have radii between zero and 2.5 mm, as suggested by Stewart, to obtain the invention as specified in claim 10.

17. Regarding Claim 11, although the Mirasol and Hayes combination does not clearly disclose a thermoplastic can wherein the wall thickness of the lower peripheral portion of the body below the thin walled recess exceeds the minimum wall thickness of the thin walled recess by at least 20 per cent, Stewart expressly discloses this feature in Fig. 3 and in Col. 4 Lines 38-54.

Mirasol, Hayes, and Stewart are analogous art because they are from the same field of containers. At the time of the invention, it would have been obvious to one of ordinary skill in the art to increase the wall thickness at the base of the Mirasol and Hayes combination container to a range where the thickness of the lower peripheral wall is at least 20 per cent more than the thickness of the thin walled recess, as suggested by Stewart, to improve the strength of the container to hold the base, with the motivation that "...the seal plate is not easily removed once it is inserted." (Hayes, Col. 2 Lines 14-15).

Therefore, it would have been obvious to modify the thickness of the lower peripheral wall of the Mirasol and Hayes container to be more than 20 per cent of the

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wall thickness at the thin-walled recess, as suggested by Stewart, to obtain the invention as specified in claim 11.

18. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mirasol, in view of Hayes, and further in view of Setty (U.S. Patent No. 5,713,484).

The Mirasol and Hayes combination does not expressly disclose fabricating cups using the thermoplastic material polyolefin. However, Setty is from the art of thermoplastic containers with removable covers, and the patent to Setty discloses various thermoplastics used in fabrication including "...polyethylene, polypropylene and other thermoplastic materials ..." (**Setty**, Col 3. Lines 27-28)

Mirasol, Hayes, and Setty are analogous art because they are from the same field of containers. At the time of invention, it would have been obvious to a person of ordinary skilled in the art to manufacture the Mirasol and Hayes combination container from a polyolefin plastic material, with the motivation "...to provide a commercially viable two-piece plastic container and removable cover which is particularly adapted for containing flowable products." (**Setty**, Col 1. Lines 22-25)

Therefore, it would have been obvious to modify the Mirasol and Hayes combination container to be made from a thermoplastic material like polyolefin, as suggested by Setty, to obtain the invention as specified in claim 7.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert J. Hicks whose telephone number is (571) 270-

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1893. The examiner can normally be reached on Monday-Friday, 8:00 AM - 5:00 PM, Alt Friday, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Jackson can be reached on (571) 272-4697. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Robert J. Hicks / RJH  
3/22/07

GARY JACKSON  
SUPERVISORY PATENT EXAMINER

  
3/27/2007